

# MORPHOLOGY OF PERMANENT CANINES



# INTRODUCTION

- ◆ Four in number
- ◆ Numbering system

Palmer notation: 
$$\begin{array}{c|c} 3 & 3 \\ \hline 3 & 3 \end{array}$$

FDI system 13,23,33,43

- ◆ Eruption time- Max Canine: 11-12years  
Mand Canine: 9-10years
- ◆ **Longest teeth** in the mouth and most stable of all teeth
- ◆ Last teeth to exfoliate

- ◆ **Cornerstone of the dentition**
- ◆ Middle labial lobe is highly developed into strong well formed cusps. Hence canine is also known as '**cuspid teeth**'.
- ◆ Maxillary canine is the most common teeth to be **impacted** in the maxillary arch

# FUNCTIONS

- ◆ **Support** to the lip and facial muscles
- ◆ To cut, pierce or shear food particles
- ◆ Important **guide post** in occlusion
- ◆ Serve as a **good anchor teeth** for a fixed dental bridge or RPD when adjacent teeth are lost
- ◆ Very important teeth in **maintaining natural facial expression**

# CLASS TRAITS OF CANINES

- ◆ Longest teeth in the mouth
- ◆ Labio-lingual dimension > mesio-distal dimension
- ◆ **FACIAL VIEW**
  - Crowns are **pentagon** shaped
  - Mesial cuspal slopes shorter than distal slopes
  - Crown outlines are more convex on mesial and flatter on the distal
  - Roots are wider labio-lingually than mesiodistally

◆ Proximal view

- **Wedge shaped**
- Facial and lingual crest of curvature are in the cervical 3<sup>rd</sup>
- Cervical lines are convex towards the apex

# PERMANENT MAXILLARY CANINE

- ◆ Cervico-incisal length: 10mm
- ◆ Root length: 17mm
- ◆ Root is thick labiolingually with mesial and distal development depressions that help to furnish the secure anchorage to the bone

# LABIAL ASPECT

- ◆ Labial surface-smooth with no developmental depressions
- ◆ Middle labial lobe shows much greater development and produces a ridge on labial surface- **LABIAL RIDGE**
- ◆ **Mesial outline**: convex from cervix to the centre of mesial contact area; crown may exhibit slight concavity above the contact area
- ◆ **Mesial contact area**: junction of incisal and middle 3rd

## *Labial aspect*

- ◆ **Distal outline:** concave between the cervical line and distal contact area above which it may be slightly convex.
- ◆ **Distal contact area:** centre of the middle 3<sup>rd</sup>
- ◆ **Two cuspal slopes:** Mesial and Distal
- ◆ **Mesial slope is shorter than the distal slope**
- ◆ Cusp tip is in line with the centre of the root
- ◆ Cervical line is convex, with the convexity facing the root surface

◆ **ROOT**

- Labial surface of the root is smooth and convex at all points
- Appears slender from this aspect when compared to the bulk of the crown
- Conical in shape with a **bluntly pointed** apex
- **Apical third** of the root has a **sharp curve**, mostly in the **distal** direction



# LINGUAL ASPECT

- ◆ Crown and root are narrower lingually than labially.
- ◆ **CROWN**
  - Cingulum is large and sometimes pointed like a small cusp
  - Cingulum and tip of the cusp are usually centered mesiodistally
  - **Lingual ridge** is seen which is confluent with the cusp tip and extends to a point near the cingulum

- ◆ **Marginal ridges:** Mesial and Distal
- ◆ **Distal marginal ridge:** slightly more elevated
- ◆ **Mesial marginal ridge:** longer, because of the shorter mesial cuspal slope and the location of the mesial contact area.
- ◆ **Fossae:** shallow concavities present between lingual ridge and marginal ridges
- ◆ Two fossae are seen: Mesial lingual fossa  
: Distal lingual fossa

## *Lingual aspect*

- ◆ Lingual fossae appear as shallow concavities
- ◆ Cervical line shows a more even curvature
- ◆ **ROOT**
- ◆ Lingual portion of the root is narrower due to which much of the mesial and distal surface of the root is visible
- ◆ Lingual surface is smooth and convex at all points



# MESIAL ASPECT

- ◆ Crown outline: **Wedge shaped**
- ◆ **Labial outline**: flattened surface from cervical line to crest of curvature; below the cervical line the surface is convex up to the cusp tip
- ◆ **Labial crest of curvature**: cervical 3<sup>rd</sup>
- ◆ **Lingual outline**: represented by a convex line describing the cingulum, straight in the middle 3<sup>rd</sup> becoming convex again in the incisal 3<sup>rd</sup>
- ◆ **Lingual crest of curvature**: cervical 3<sup>rd</sup>

- ◆ Cervical line curves towards the cusp, approx. being 2.5mm
- ◆ **Cusp tip is labial** to the line bisecting the root
- ◆ **ROOT**
- ◆ **Conical, tapered or bluntly pointed apex**, with occasional **labial** curvature.
- ◆ Labial outline almost perpendicular with lingual outline being more convex
- ◆ Shallow developmental depression running for part of the root length



# DISTAL ASPECT

Following variations when compared to mesial aspect

- ◆ Cervical outline exhibits less curvature
- ◆ Distal marginal ridge heavier and more irregular
- ◆ Surface displays more concavity usually above the contact area
- ◆ Development depression more pronounced



# INCISAL ASPECT

- ◆ Labio-lingual dimension > Mesio-distal dimension
- ◆ Cusp tip is labial to centre of the crown labio-lingually & mesial to the centre mesio-distally
- ◆ **Labial contour**: convex labial surface
- ◆ **Labial ridge** is very noticeable, greatest convexity at cervical 3<sup>rd</sup>, becoming broader and flatter at middle and incisal 3<sup>rd</sup>
- ◆ **Lingual contour**: cingulum makes up cervical 3<sup>rd</sup>, large and located centrally

